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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,269	04/10/2007	Haoyi Wan	292986US8PCT	5615

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EXAMINER

NICKERSON, JEFFREY L

ART UNIT	PAPER NUMBER
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2442

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/584,269	Applicant(s) WAN ET AL.	
	Examiner JEFFREY NICKERSON	Art Unit 2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is in response to Application No. 10/584,269 filed nationally on 10 April 2007 and internationally on 24 December 2004. The response presented on 26 March 2010, which amends claims 1, 6, and presents arguments, is hereby acknowledged. Claims 1-8 are currently pending and have been examined.

35 USC § 102/103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Response to Arguments

4. Applicant's amendments and arguments, filed in the response dated 26 March 2010 and with regard to the rejections under 35 USC 103(a), have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, new grounds of rejection may appear below.

Claim Rejections

5. Claims 1-4 and 6 are rejected under 35 U.S.C. 102(a) as being anticipated by Wan et al ("Autonomous Topology Optimization and Recovery for Peer-to-Peer Networks", 04 March 2004).

Regarding claim 1, Wan teaches a node device which newly joins a network formed by a first existing node and a second existing node, the node device comprising:

a virtual connection establisher unit configured to establish a first virtual connection with the first existing node and configured to establish a second virtual connection with the second existing node (Wan: pg 96, section 3.2, step 1; Figure 4, and paragraph below);

a total metric value calculator unit configured to calculate a first total metric value for the first virtual connection and configured to calculate a second total metric value for the second virtual connection (Wan: pg 96, section 3.2 first three paragraphs, steps 1-2; Figures 3-4 and paragraphs below);

a connection establisher unit configured to establish a connection with only the first existing node when the first total metric value is smaller than the second total metric value, and configured to establish a connection with only the second existing node when the second total metric value is smaller than the first total metric value (Wan: pg 96, section 3.2, step 3); and

wherein when calculating the first total metric value:

the total metric value calculator calculates a first weighted metric value as a product of a metric value metric value of the first virtual connection to the first existing node and a first weighting coefficient representing a number of adjacent nodes to the first existing node (Wan: pg 96, section 3.2 formula at top and two paragraphs beneath);

the total metric value calculator calculates a second weighted metric value as a product of a metric value of a route to a second existing node via the first virtual connection and the first existing node and a second weighting coefficient representing a number of adjacent nodes to the second existing node (Wan: pg 96, section 3.2 formula at top and two paragraphs beneath);

and the first total metric value is calculated as a sum of the first weighted value and the second weighted metric value divided by the sum of the first and second weighting coefficients (Wan: section 3.2, formula at top and two paragraphs beneath); and

wherein when calculating the second total metric value:

the total metric value calculator calculates a third weighted metric value as a product of a metric value of the second virtual connection to the second existing node and the second weighting coefficient (Wan: pg 96, section 3.2 formula at top and two paragraphs beneath);

the total metric value calculator calculates a fourth weighted metric value as a product of a metric value of a route to the first existing node via the second

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virtual connection and the first weighting coefficient (Wan: pg 96, section 3.2 formula at top and two paragraphs beneath);

and the second total metric value is calculated as a sum of the third weighted metric value and the fourth weighted metric value divided by the sum of the first and second weighting coefficients (Wan: section 3.2, formula at top and two paragraphs beneath).

Regarding claim 2, the Wan system teaches further comprising:

an acquirer unit configured to acquire, from at least one of the first existing node and the second existing node, a node-to-node connection information of an adjacent node to any other of the plurality of existing nodes forming the network (Wan: pg 95, section 3.1.3); and

wherein the weighted metric value calculator unit is configured to calculate the weighted metric value in accordance with the node-to-node connection information (Wan: pg 96, section 3.2 first 3 paragraphs provides it's using the collected information).

Regarding claim 3, the Wan system teaches wherein the node-node connection information includes a node ID for identifying the adjacent node, a metric value of a route between each of the first existing node and the second existing node to the adjacent node, and a number of nodes adjacent to the adjacent node (Wan: pg 95, Table 2).

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Regarding claim 4, the Wan system teaches wherein the metric value includes at least one of a number of hops, network bandwidth, communication costs, delay, load, MTU, or reliability (Wan: pg 94, section 3.1.2 first paragraph).

Regarding claim 6, this method claim comprises limitations corresponding to that of claim 1 and the same rationale of rejection is used, where applicable.

6. Claims 5 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wan et al (“Autonomous Topology Optimization and Recovery for Peer-to-Peer Networks”, 04 March 2004); and in further view of Traversat et al (US 2002/0147771 A1).

Regarding claim 5, the Wan system teaches wherein the acquirer unit is configured to receive, from the first existing node and the second existing node, a metric value or a combination of metric values to within the node-node connection information (Wan: pg 94, section 3.1.1 first paragraph);

Wan does not teach notifying, the other peer, of a type of a metric value or a combination of metric values to be included in the response information.

Traversat, in a similar field of endeavor, teaches notifying, the other peer, of a type of a metric value or a combination of metric values to be included in the response information (Traversat: [0350]-[0356] specifies that specific properties may be requested for).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Traversat for requesting characteristics from another peer in the decentralized network. The teachings of Traversat, when implemented in the Wan system, will allow one of ordinary skill in the art to form greedy and dynamic cost tables by requesting information relevant to a node's own interests. One of ordinary skill in the art would be motivated to utilize the teachings of Traversat in the Wan system in order to provide a more wholesome cost table, incorporating more variables into a cost equation, and fleshing out its effectiveness.

Regarding claim 7, the Wan system teaches wherein the acquirer unit is configured to periodically acquire updated node-node connection information by receiving an update from the first existing node and the second existing node (Wan: pg 94, section 3.1.1 first paragraph).

The Wan system does not teach requesting the updates.

Traversat, in a similar field of endeavor, teaches requesting the updates (Traversat: [0350]-[0356] specifies that various peer information properties may be queried for).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Traversat for requesting characteristics from another peer in the decentralized network. The teachings of Traversat, when implemented in the Wan system, will allow one of ordinary skill in the art to form greedy and dynamic cost tables by requesting information relevant to a node's own interests.

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One of ordinary skill in the art would be motivated to utilize the teachings of Traversat in the Wan system in order to provide a more wholesome cost table, incorporating more variables into a cost equation, and fleshing out its effectiveness.

Regarding claim 8, this method claim comprises limitations corresponding to that of claim 7 and the same rationale of rejection is used, where applicable.

Citation of Pertinent Prior Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Atkinson et al (US 7,643,408 B2) discloses a topology restoration system with nodes sharing a variety of cost information.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY NICKERSON whose telephone number is (571)270-3631. The examiner can normally be reached on M-Th, 9:00am - 7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Lee can be reached on (571)272-3967. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. N./
Examiner, Art Unit 2442

/Philip C Lee/
Acting Supervisory Patent
Examiner, Art Unit 2442